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☐ 1: *Int Arch Occup Environ Health* 1997;69(6):372-8

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**Critical evaluation and review of cadmium concentrations in blood for use in occupational health according to the TRACY protocol.****Herber RF, Christensen JM, Sabbioni E**

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Cadmium in blood (B-Cd) may be used to assess recent exposure to cadmium in the working or general environment. In a paper published elsewhere pooled reference values using meta-analysis of B-Cd values in general-population studies were calculated. In the present study tentative reference intervals were described which can be used for comparison with data from occupationally exposed groups or individuals. The selection of studies was done according to criteria as published by the international project TRACY. For this purpose, 800 publications covering the period 1983-1992 were reviewed on their suitability for establishing tentative reference intervals. From these 800 publications, four finally met the selection criteria. Most important criteria for selection were the check for contamination during sampling of the blood, the storage and pretreatment procedures, and the existence of internal and external quality control programs. Also, stratifications into sex, smoking habits and occupation were important selection criteria. It turned out that for non-smoking white-collar workers in the age range of 19-65 years, B-Cd values were below 0.8 micrograms/l for most areas. All other groups within this age group, e.g., white collar workers in Japan, blue-collar workers, and smokers tend to have higher B-Cd values in these sequences. Blue-collar workers not clearly exposed to Cd have higher values than white-collar workers, indicating still some minor exposure. It is not clear if this small exposure has an occupational or lifestyle (e.g., diet) origin. Geographical regions also show an influence on B-Cd levels, e.g. values in Japan are higher than elsewhere. This influence may be due to differences in diet. The conclusion will be that reference values for B-Cd in fact are area-dependent.

**Publication Types:**

- Review
- Review, tutorial

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